

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) Infrared heater comprising a surface consisting of a material responding to induction and capable of withstanding elevated temperatures, at least one layer of insulating material of very low heat conductivity placed against said surface, an inductor adjacent said layers of insulating material and separated from said surface by said layers, and a field concentrator adjacent said inductor, whereby said surface produces high power density infrared radiation when heated at said elevated temperatures by electromagnetic induction.

2. (Currently Amended) Infrared heater according to claim 1, characterized in that the surface that responds to induction is in the form of a plate.

3. (Currently Amended) Infrared heater according to claim 2, characterized in that said plate is selected among composite materials.

4. (Currently Amended) Infrared heater according to claim 3, characterized in that said plate is selected from composite materials of CFCC and carbon/carbon type.

5. (Currently Amended) Infrared heater according to claim 1, characterized in that the surface responding to induction is a thin layer placed against a plate.

6. (Currently Amended) Infrared heater according to claim 3, characterized in that said surface is capable of being heated to a temperature of at least 1300°C, and to produce a radiation power density exceeding 250 kW/m².

7. (Currently Amended) Infrared heater according to claim 1, characterized in that the insulating material consist of a layer of a low temperature insulating material and a layer of a high temperature insulating material.

Application Serial No.: 10/030,990
Amendment dated July 19, 2004
Reply to Office Action dated March 18, 2004

8. (Currently Amended) Infrared heater according to claim 5, characterized in that the inductor includes a water cooled copper tube.

9. (Currently Amended) Infrared heater according to claim 5, characterized in that the inductor comprises a Litz cable.

10. (Currently Amended) Infrared heater according to claim 6, characterized in that the field concentrator is mounted adjacent said inductor.

11. (Currently Amended) Infrared heater according to claim 4, characterized in that said plate has a thickness between 1 mm and 5 mm.

12. (Currently Amended) Infrared heater according to claim 1, characterized in that said material consists of a heating matrix and comprising carbon fibers.

13. (New) Infrared heater according to claim 1, characterized in that said infrared radiation has a medium wavelength range which is comprised between 1 and 6 μm .

14. (New) Infrared heater according to claim 2, characterized in that said plate has a circular shape.

15. (New) Infrared heater according to claim 3, characterized in that said plate is selected from composite materials of CMC type.